THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte JOHN D. HOTTOVY, FREDERICK C. LAWRENCE
and NELSON T. BLACK

_____

Appeal No. 1996-3975
Application No. 08/328,179[1]

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ON BRIEF

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Before PAK, WALTZ and LIEBERMAN, ***Administrative Patent Judges***.

LIEBERMAN, ***Administrative Patent Judge***.

DECISION ON APPEAL

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[1] Application for patent filed October 24, 1994. According to appellants, this application is a division of Application No. 08/014,934 filed February 8, 1993, now U.S. Patent No. 5,387,659 issued February 7, 1995.

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 8 through 14 which are all the claims in the application.

THE INVENTION

The invention is directed to an apparatus comprising a polymerization reactor. The apparatus contains means for providing monomer and catalyst to said polymerization reactor and means for removing reaction effluent containing polymer and unreacted monomer from said polymerization reactor. Outlets are provided for two flash separation means. The apparatus contains a first flash separation means which receives a major portion of reaction effluent. The flash separation means separates monomer and polymer at a pressure above about 100 psig. The apparatus further contains a second flash separation means for receiving a minor portion of reaction effluent. The second flash separation means separates additional monomer and polymer at a pressure below 75 psig. Separated monomer from the second flash means is analyzed. The monomer which is analyzed produces a signal representative of at least one condition in the polymerization

reactor. Thereafter means are provided for manipulating at least one condition in the polymerization reactor in response to the signal.

THE CLAIM

Claim 8 is illustrative of appellants' invention and is reproduced below.

8. Apparatus comprising:

a polymerization reactor;

means for providing monomer to said polymerization reactor;

means for providing catalyst to said polymerization reactor;

means for removing the reaction effluent containing polymer and unreacted monomer from said polymerization reactor;

first flash separation means for receiving a major portion of said reaction effluent and flash separating said unreacted monomer from said polymer at a pressure above about 100 psig;

second flash separation means for receiving a minor portion of said reaction effluent and flash separating said unreacted monomer from said polymer at a pressure below about 75 psig;

means for analyzing said monomer separated from said minor portion of said reaction effluent to produce a signal representative of at least one condition in the polymerization reactor;

means for manipulating at least one condition in said polymerization reactor in response to said signal.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.

Goffinet, Jr. (Goffinet)	3,635,919	Jan. 18, 1972
Mori	4,469,853	Sep. 4, 1984

THE REJECTION

Claims 8 through 14 stand rejected under 35 U.S.C. § 103, as being unpatentable over Mori in view of Goffinet.

OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the aforementioned rejection is not well founded. Accordingly, we will not sustain the rejection.

The initial inquiry into determining the propriety of the examiner's obviousness analysis is to correctly construe the scope and meaning of the claimed subject matter. ***Gechter v. Davidson***, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997); ***In re Paulsen***, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994). Generally, we give the broadest reasonable interpretation to the terms in the claims consistent with

appellants' specification. ***In re Zletz,*** 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); ***In re Sneed,*** 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); ***In re Okuzawa***, 537 F.2d 545, 548, 190 USPQ 4564, 466 (CCPA 1976); ***In re Morris***, 127 F.3d 1048, 1053-1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). When the terms in the claims are written in a "means-plus-function" format, however, we interpret them as the corresponding structure described in the specification or the equivalents thereof consistent with 35 U.S.C. § 112, paragraph 6. ***In re Donaldson***, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994)(in banc). The manner in which a "means-plus-function" element is expressed, either by a function followed by the term "means" or by the term "means for" followed by a function, is unimportant so long as the modifier of that term specifies a function to be performed. ***Ex parte Klumb***, 159 USPQ 694, 695 (Bd. App. 1967). Nevertheless, the term "means" as used above is not treated as a means-plus-function element if the claimed "means" includes sufficient structural limitations. ***See Al-Site Corp. v. VSI International Inc.***, 174 F.3d 1308, 1319, 50 USPQ2d 1161, 1167

(Fed. Cir. 1999); ***Unidynamics Corp. v. Automatic Products International Ltd.***, 157 F.3d 1311, 1319, 48 USPQ2d 1099, 1104-1105 (Fed. Cir. 1998).

Applying the above statutory interpretation to the present case, we determine that the terms “first flash separation means for receiving a major portion of said reaction effluent” and “second flash separation means for receiving a minor portion of said reaction effluent” recited in claims 8 are means-plus- function elements. Accordingly, we look to the specification for the structure corresponding to the terms and the equivalents thereof to determine the scope of claim 8.

The first flash separation means is defined in the specification at page 3, lines 11-12, and page 4, line 19 - page 5, line 16. We find the first flash separation means to be a high pressure flash tank **18.** We find the tank has attached a conduit means **17** through which it receives a majority of the reaction effluent from the reactor. Two outlets are provided from the tank, **19** and **21**. The first is for polyethylene and the other for unreacted monomer and

diluent. The tank functions by reducing the pressure, which results in vaporization of monomer and diluent.

The second flash separation means is defined in the specification at page 6, lines 1-18. We find the second flash separation means to be a low pressure flash tank **25**. The tank has a conduit means **23** through which it receives a minor portion of the reaction effluent. We find that two outlets are provided from the tank, **27** and **29**. The polymer is removed through conduit **27**. Monomer is removed through conduit **29**. We further find that the means for analyzing, i.e., the analyzer transducer **33** is connected to an outlet in tank 25 via conduit **29**. The flashing tank **25** typically has a low capacity of about 2 to about 5 cubic feet. The tank functions by vaporization of the monomer and diluent.

Based upon the above interpretations we conclude that each tank performs a separate and distinct function and receives
its reaction effluent directly from the reactor. Accordingly, the claimed subject matter requires the presence of two tanks, a high pressure tank and a low pressure tank arranged in

parallel with the reactor. Furthermore, only one of the tanks, the low pressure flash tank, has an outlet with a conduit connected to an analyzer transducer.

Therefore, we conclude that the combination of Mori and Goffinet does not result in the claimed subject matter. The examiner admits that Mori does not teach the use of either first or second flash separation tanks. See Answer, page 3. As for Goffinet, patentee discloses only a single low pressure flash separation tank **13** which is attached to the reactor via a conduit for reactor effluent stream **11.** See column 4, lines 5-17, and Figure. Although the flash separation tank **13** is connected to a sampling point and analyzer **19** this does not result in the structure required by the claimed subject matter. See Goffinet, column 4, lines 22-26. Stated otherwise, the claimed subject matter recites a structure wherein two flash separation tanks are attached to the reactor in parallel via conduits. The high pressure flash separation tank which has no connections to an analyzer transducer is neither disclosed nor suggested by either Mori or Goffinet.

Based upon the above considerations, even if the examiner was correct in combining Mori and Goffinet in the manner ***supra***, the structure created would, in any event fall short of the invention defined by the claimed subject matter, as the aforesaid claimed subject matter requires features that cannot be achieved by combining Mori and Goffinet. See ***Uniroyal Inc. v Rudkin-WileyCorp.***, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1439 (Fed. Cir.), ***cert denied***, 488 U.S. 825 (1988).

DECISION

The rejection of claims 8 through 14 under 35 U.S.C. § 103, as being unpatentable over Mori in view of Goffinet is reversed.

The decision of the examiner is reversed.

REVERSED

CHUNG K. PAK Administrative Patent Judge	)	
THOMAS A. WALTZ Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
PAUL LIEBERMAN Administrative Patent Judge	)	

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